

Inspection Report

Knolls Atomic Power Laboratory (KAPL) Kesselring
350 Atomic Project Road
West Milton, NY 12020

Date of Inspection: May 7-8, 2014

EPA ID #: NY5890008993

Mailing Address: Department of Energy
Naval Reactors Laboratory Field Office
PO Box 1069
Schenectady, NY 12301

Facility Representatives are identified in the attached scan of the attendance list of entry and exit briefings. NEED TO SCAN AND ATTACH.

Background: The Region 2 RCRA Compliance Branch requested that I, Charles Zafonte, inspect the facility, since it is a federal facility and a permitted Treatment Storage and Disposal Facility (TSDF). While on-site, I screened the facility for other EPA programs and conducted CAA, SPCC, Storm Water and UST inspections.

Concerns:

Entry - Knolls management explained that EPA inspectors have always provided personal identification to gain site access. This is a concern since the Region 2 RCRA program inspected the facility only nine months ago, and the EPA policy prohibiting this has been in place for many years.

Entry:

The Knolls Atomic Power Laboratory (KAPL) Kesselring facility is a Department of Energy (DOE)-owned facility located within a reinforced fenced area, secured in the extreme by naval personnel armed with automatic weapons, who follow procedures strictly.

One of the security procedures before facility access is to require personal identification, such as a drivers license, despite my presentation of EPA credentials and my having obtained DOE Level L Clearance. Security personnel were unmoved by my explanation that EPA policy prohibits my providing personal information in order to gain facility access. At my request, they contacted facility management, who provided me access, with minimal delay. Knolls management later explained that EPA inspectors have always provided personal identification when requested. This is a concern since the Region 2 RCRA program inspected the facility only nine months ago, and this EPA policy has been in place for many years.

The next step in gaining facility access is screening for contraband, the troubling part of which is that it includes all electronic equipment. Based on the experience inspecting Knolls earlier in the week, facility management had a photographer and camera ready.

After gaining facility access, I was escorted into a large conference room and greeted there by a number of civilian Navy and contractor personnel. I explained the purpose of my visit, offered the option of confidentiality and in- and out-briefings. Facility personnel explained that:

- Operated by Bechtel Marine Propulsion Corporation (BMPC), and located in West Milton and Ballston Spa, Saratoga County, New York, the facility, along with a sister facility in South Carolina, has three missions within the Naval Nuclear Propulsion Program (NNPP):
 - Training naval personnel, using two nuclear reactors and two simulators.
 - Pre-deployment testing of advance technology.
 - Cradle-to-grave responsibility for the fleet of 83 ships and 104 reactors.
- Kesselring sits on approximately 4,000 acres, 65 of which are developed to support the work of ~ 1,300 – 1,400 Navy sailors, 620 Navy civilians and 230 contractors, mostly employed through Newport News Shipbuilding. The Navy has ~16,000 sailors who have been reactor trained.
- Dominating the landscape is the Hortonsphere, the first power reactor pressure containment structure, which will be dismantled, since it has been replaced by the reactors and simulators mentioned above. The facility has its own on-site police, emergency response unit, fire station and medical unit. Loudspeakers, phones and alarms broadcast emergency announcements.
- Destruction and demolition of prototypes, labs and maintenance of the facility generate RCRA hazardous wastes at an LQG rate and under TSD permit and TSCA PCB wastes. The facility files Tier II reports.
- The facility heats with No. 2 fuel oil, stored in 60,000- and 30,000-gallon ASTs, and has a total oil storage capacity of ~150,000 gallons, including a 2,200-gallon UST storing diesel for an emergency generator. The facility's SPCC Plan protects the Gloweggee Creek. The facility has no UIC wells.

Per facility requirements, Messrs. Hill or Delwiche acted as my cognizant escort at all times at the facility (including restroom visits). Either of these two gentlemen and Mr. Dahl escorted me to each of the three permitted storage areas, 90-day storage areas and satellite accumulation areas (identified in the attachment). I observed no permit non-compliance at any of the areas: the types of stored wastes were permitted, and were in containers that were closed, dated, compatible with the wastes and labeled as hazardous wastes. All hazardous wastes were also in secondary containment, were separated according to compatibility in accordance with a Chemical Waste Classification System (attached) and were equipped with emergency equipment. The separation of waste is designated by signs (e.g., Group A: Acids; Group B: Base/Caustics; Group C:

Hazardous Waste Non-combustible materials; flammables are kept in a flammable storage locker).

With the escort of Messrs. Hill or Delwiche, and et al, I inspected all RCRA storage and SAAs, all oil storage subject to the SPCC rule, etc. (see attached listing), and observed RCRA, SPCC and UST compliance with the following exceptions and/or concerns:

- The facility's 30,000- and 60,000-gallon ASTs had secondary containment in good condition, but the concrete base of the tanks was eroded, with broken cement under the tank edges, and with moss and other growth in many areas. The hatchway atop each of the two tanks had bolts through them, but they were not fastened with nuts or other fasteners. The larger tank also had rectangular gaps in the insulation, which contained water. Mr. Hill suggested that the rectangles were cut probably in order to take thickness measurements. Note that the facility's inspections found no concerns with the tanks. Later that day, the bolts were fastened, and insulation added where missing. Internal and external inspection of the tanks had passing results, with recommendations (four for the larger tank, and two for the smaller tank). Of these, only one (for the larger tank) was completed. Two for the larger tank and one for the smaller tank require draining the tanks. The facility has not installed NFPA signage on either tank. Facility management stated that they would install the signage.
- Next to these two larger tanks, the facility's 4,000-gallon gasoline AST fuels vehicles through steel piping leading to a dispenser. An ~4-foot section of the piping runs under a metal plate and on top of a concrete vault and was in contact with soil. Later that day, the soil was cleaned out, and a promise made to add its inspection to the maintenance schedule.
- On the other side of the 4,000-gallon gasoline AST is a 4,000-gallon diesel tank. While a release from the tank would flow to the delivery pad that is common to all four tanks, adding a curb to the diesel tank containment would make any cleanup easier. The facility representatives agreed to look into this modification.
- While some of the facility's transformers had general secondary containment, such as the Area 17 High Yard and Building 62, the Building 71 500-gallon transformer had none, the Area 30 3 x 3,220-gallon and 3 x 150-gallon transformers were surrounded by curbing that had large cracks and moss growing on it.
- Tank #28, the facility's only UST, alarms for an interstitial probe, with both low and high alarms, which I have never encountered before. The tank is also unusual in that it fuels an emergency generator, which would normally exempt the tank from the release detection requirements at Part 280. However, the generator is used to train sailors, so it is in use much more than an emergency generator would typically be. Thus, release detection could very well be required. That said, the facility was able to demonstrate 30-day release detection for the last twelve months. The tank is a STI-P3 with SAC anodes and cathodic protection surveys on 7/20/11 and 6/27/13. Transfer containment is

provided here, and for each AST by covering downgradient sewers or using drive-over containment structures, etc.

- A questionable concern, as at Niskayuna, is that the visible label on each container in central storage areas and SAAs shows only the chemical category, such as “oxidizer” and not the actual chemical, such as “chlorine,” as required under the NY-state delegated program. However, if one removes the label from a plastic holder, the actual chemical is identified further down the page. Note that accumulation start dates may be documented by an inventory record in place of a container label. However, there is no such substitute for a label. Nevertheless, the chemical identity, although not visible, is attached to the container.
- The Clean Soil Area was contained by local topography and vegetation. Storm water (90%) flows to a lagoon, where algae is controlled with ultrasound, and then to a wetland on-site, the discharge appearing clear. The facility treats its sewage in a 30,000-gallon extended aeration Aqua Aerobic Plant, which runs three batches daily. I detected no odors in the plant, and the discharge (NY0005843) was clear and scent-free. No disinfection is used.
- The facility’s firing range is indoors and uses copper and plastic in place of lead, with no jackets.

Records Review

- RCRA manifests for the previous three years for generator # NY6890008992 were complete and compliant, including receipt dates within a few days of shipment and LDR forms. Weekly inspection logs for the last three years were complete, and they identified deficiencies for correction. Hazardous waste generation from the SPRU (Separations Process Research Unit) for the last three years ranged between 16 and 18 tons, well under the permitted 25-ton limit. The Contingency Plan is compliant, and the facility documented outreach to local responders.
- The SPCC Plan appears comprehensive and compliant, including preventive measures before fuel transfers and a schedule of tank integrity testing. SPCC inspection records for the last three years were complete, except for Tank 24 for December 2013 – January 2014. Inspection records do not explicitly require checking tank interstices, or fuel level gauge accuracy.
- Training records for the last three years for both RCRA and SPCC did not identify the job positions requiring training. Although the facility did generate the data, it is unclear how previous RCRA inspections could have verified the adequacy of training without these data.
- The facility uses refrigerants for comfort and process cooling. I reviewed leak-rate calculations, and have yet to receive operator’s licenses and notification to EPA of recyclers/reclaimers.